

WHAT IS CLAIMED IS:

1. A game apparatus which represents a game by a game image in which game an object moves in accordance with a player's operation, comprising:

an operating section for inputting, in accordance with the player's operation, at least acceleration operation input data for accelerating a movement of the object and deceleration operation input data for decelerating a movement of the object;

an acceleration sound storage section in which a series of acceleration sound data of the object are stored in accordance with action parameters of the object;

a deceleration sound storage section in which a series of deceleration sound data of the object are stored in accordance with the action parameters of the object;

a read position calculating section for selecting, based on operation input data inputted via the operating section, either one of the acceleration sound data and the deceleration sound data which are stored in the acceleration sound storage section and the deceleration sound storage section, respectively, and for calculating a read start position of selected sound data corresponding to a current action parameter of the object;

a sound data reading section for sequentially reading, from the read start position, the sound data selected by the read position calculating section; and

a sound output control section for emitting, as a sound, the sound data read by the sound data reading section.

2. The game apparatus according to claim 1, wherein
5 for each change from one to the other between the acceleration operation input data and the deceleration operation input data which are inputted via the operating section, the read position calculating section changes a calculation target at the read start position from one to the other between the acceleration sound data
10 and the deceleration sound data, while the sound data read section sequentially reads, in response to a change of the calculation target of the read position calculating section, sound data newly targeted for calculation from the read start position, thereby continuously reading different types of sound data before and after
15 the change of the calculation target.

3. The game apparatus according to claim 1, wherein when the sound data reading section is sequentially reading the acceleration sound data in response to the acceleration operation
20 input data from the operating section, if there is an input of the deceleration operation input data from the operating section, the read position calculating section calculates the read start position of the deceleration sound data based on an action parameter corresponding to a read position of the acceleration
25 sound data being read by the sound data reading section.

4. The game apparatus according to claim 1, wherein
when the sound data reading section is sequentially reading the
deceleration sound data in response to the deceleration operation
5 input data from the operating section, if there is an input of
the acceleration operation input data from the operating section,
the read position calculating section calculates the read start
position of the acceleration sound data based on an action parameter
corresponding to a read position of the deceleration sound data
10 being read by the sound data reading section.

5. The game apparatus according to claim 1, wherein:
the acceleration sound data stored in the acceleration
sound storage section contains at least sound data corresponding
15 to an acceleration range where the object accelerates from a minimum
speed to a maximum speed at a constant acceleration rate; and
the deceleration sound data stored in the deceleration
sound storage section contains at least sound data corresponding
to a deceleration range where the object decelerates from the
20 maximum speed to the minimum speed at a constant deceleration rate.

6. The game apparatus according to claim 5, wherein
the acceleration sound data stored in the acceleration
sound storage section further contains sound data corresponding
25 to a maximum and constant speed range, where the object moves at

the maximum and constant speed, and the sound data corresponding to a maximum and constant speed range is sequential in address to the sound data corresponding to the acceleration range; and

if the acceleration operation input data is continuously
5 inputted from the operating section for a period of a prescribed time or more, the sound data reading section repeatedly reads the acceleration sound data corresponding to the maximum and constant speed range.

10 7. The game apparatus according to claim 5, wherein the deceleration sound data stored in the deceleration sound storage section further contains sound data corresponding to a minimum and constant speed range, where the object moves at the minimum and constant speed, and the sound data corresponding
15 to a minimum and constant speed range is sequential in address to the sound data corresponding to the deceleration range; and

if the deceleration operation input data is continuously inputted from the operating section for a period of a prescribed time or more, the sound data reading section repeatedly reads the
20 deceleration sound data corresponding to the minimum and constant speed range.

8. The game apparatus according to claim 1, wherein:
the operating section is able to input acceleration
25 operation input data for accelerating the movement of the object

at an arbitrary rate of speed in accordance with a degree of operation designated by the player; and

the sound output control section includes an acceleration sound frequency correcting section for correcting a frequency of the acceleration sound data read by the sound data reading section in accordance with a rate of acceleration movement indicated by the acceleration operation input data.

9. The game apparatus according to claim 1, wherein:

the operating section is able to input deceleration operation input data for decelerating the movement of the object at an arbitrary rate of speed in accordance with a degree of operation designated by the player; and

the sound output control section includes a deceleration sound frequency correcting section for correcting a frequency of the deceleration sound data read by the sound data reading section in accordance with a rate of deceleration movement indicated by the deceleration operation input data.

10. The game apparatus according to claim 1, wherein:

the object is a vehicle; and

the action parameter corresponds to a speed of the vehicle.

11. A storage medium having recorded therein a game

program causing a computer, which includes an operating section operated by a player, to implement a process for representing a game by a game image in which game an object moves in accordance with the player's operation, the game program causing the computer
5 to implement:

an input step for inputting, in accordance with an operation of the operating section, at least acceleration operation input data for accelerating a movement of the object and deceleration operation input data for decelerating a movement of
10 the object;

a read position calculating step for selecting, based on operation input data inputted at the input step, either one of the object's acceleration sound data and deceleration sound data, which are sequential to each other and previously stored
15 in accordance with action parameters of the object, and for calculating a read start position of selected sound data corresponding to a current action parameter of the object;

a sound data reading step for sequentially reading, from the read start position, the sound data selected at the read position
20 calculating step; and

a sound output control step for emitting, as a sound, the sound data read at the sound data reading step.

12. The storage medium having stored therein a game
25 program according to claim 11, wherein for each change from one

to the other between the acceleration operation input data and the deceleration operation input data which are inputted via the operating section at the input step, the read position calculating step changes a calculation target at the read start position from one to the other between the acceleration sound data and the deceleration sound data, while the sound data read step sequentially reads, in response to a change of the calculation target at the read position calculating step, sound data newly targeted for calculation from the read start position, thereby continuously reading different types of sound data before and after the change of the calculation target.

13. The storage medium having recorded therein a game program according to claim 11, wherein when the sound data reading step is sequentially reading the acceleration sound data in response to the acceleration operation input data inputted at the input step, if the input step inputs the deceleration operation input data, the read position calculating step calculates the read start position of the deceleration sound data based on an action parameter corresponding to a read position of the acceleration sound data being read at the sound data reading step.

14. The storage medium having recorded therein a game program according to claim 11, wherein when the sound data reading step is sequentially reading the deceleration sound data in

response to the deceleration operation input data inputted at the input step, if the input step inputs the acceleration operation input data, the read position calculating step calculates the read start position of the acceleration sound data based on an action
5 parameter corresponding to a read position of the deceleration sound data being read at the sound data reading step.

15. The storage medium having recorded therein a game program according to claim 11, wherein:

10 the previously stored acceleration sound data contains at least sound data corresponding to an acceleration range where the object accelerates from a minimum speed to a maximum speed at a constant acceleration rate; and

the previously stored deceleration sound data contains
15 at least sound data corresponding to a deceleration range where the object decelerates from the maximum speed to the minimum speed at a constant deceleration rate.

16. The storage medium having recorded therein a game
20 program according to claim 15, wherein the previously stored acceleration sound data further contains sound data corresponding to a maximum and constant speed range, where the object moves at the maximum and constant speed, and the sound data corresponding to a maximum and constant speed range is sequential in address
25 to the sound data corresponding to the acceleration range; and

if the acceleration operation input data is continuously inputted at the input step for a period of a prescribed time or more, the sound data reading step repeatedly reads the acceleration sound data corresponding to the maximum and constant speed range.

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17. The storage medium having recorded therein a game program according to claim 15, wherein the previously stored deceleration sound data further contains sound data corresponding to a minimum and constant speed range, where the object moves at the minimum and constant speed, and the sound data corresponding to a minimum and constant speed range is sequential in address to the sound data corresponding to the deceleration range; and

if the deceleration operation input data is continuously inputted at the input step for a period of a prescribed time or more, the sound data reading step repeatedly reads the deceleration sound data corresponding to the minimum and constant speed range.

18. The storage medium having recorded therein a game program according to claim 11, wherein:

the input step inputs acceleration operation input data for accelerating the movement of the object at an arbitrary rate of speed in accordance with a degree of operation designated by the player via the operating section; and

the sound output control step includes an acceleration sound frequency correcting step for correcting a frequency of the

acceleration sound data read at the sound data reading step in accordance with a rate of acceleration movement indicated by the acceleration operation input data.

5 19. The storage medium having recorded therein a game program according to claim 11, wherein:

the input step inputs deceleration operation input data for decelerating the movement of the object at an arbitrary rate of speed in accordance with a degree of operation designated by
10 the player via the operating section; and

the sound output control step includes a deceleration sound frequency correcting step for correcting a frequency of the deceleration sound data read at the sound data reading step in accordance with a rate of deceleration movement indicated by the
15 deceleration operation input data.

20. The storage medium having recorded therein a game program according to claim 11, wherein:

the object is a vehicle; and
20 the action parameter corresponds to a speed of the vehicle.